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## ABSTRACT

Eighty-eight applicable responses, national and international, were received as a result of a mailed questionnaire concerning the nature of current efforts related to growth problems in postsecondary education. These responses are compiled in this directory, alphabetized by respondent, with the descriptive portions of the questionnaire summarized for each entry. Information compiled included: name of respondent, position, institution, primary discipline, activities, primary population, and a summarization of their work. (MJM)

RESOURCE DIRECTORY ON GROWTH AND EDUCATION

by

Douglas M. Sacarto

December 1974

Project to Study the Implications  
of Growth Policy for Postsecondary Education

Lewis J. Perelman, Director

William H. Bergquist, Co-Director

U.S. DEPARTMENT OF HEALTH,  
EDUCATION & WELFARE  
NATIONAL INSTITUTE OF  
EDUCATION

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## PREFACE

The Resource Directory on Growth and Education was one dimension of a four-month project to outline the role postsecondary education can and should take in a world approaching its growth limits. The project, begun August, 1974, was financed by the Rockefeller Brothers Fund and headed by Drs. Lewis Perelman and William Bergquist under the sponsorship of the Western Interstate Commission for Higher Education.

The intent of the directory was to indicate the nature of current efforts related to growth problems. From the rather broad range of persons contacted by mailed questionnaire, eighty-eight applicable responses, national and international, were received. These are compiled in the directory.

In the questionnaire the respondents gave a description of the subject-matter of their work, the kinds of activities pursued, the goals set, the people targeted in their work, and the nature of any future plans. The questionnaire included a check-off list for activities, disciplines, and target populations, and a series of questions which elicited short descriptions of the respondents' purposes and strategies.

The directory parallels this format, alphabetized by respondent, with the descriptive portions of the questionnaire summarized for each entry. In addition, indexes are provided for disciplines, geographical locations, activities, and institutions involved.

We wish to express our appreciation to several persons for the crucial assistance they generously provided in developing this directory. JoAn Segal and Claudia Harris, who are the life of the WICHE library, were indispensable in the solution of reference and bibliographic conundrums. Nancy Barber, WICHE Staff Associate, could always be depended on for good advice on directory development. Finally, Flora Bovis, the directory's expert typist, is owed special thanks for the virtues of the directory layout and, most especially, for being ever a joy to work with.

A need almost universally expressed by the respondents was

for increased communication with other professionals working in related problem areas. The value of this directory is assured if it can help to integrate the clearly widespread efforts that now exist. This is our hope, and we want to thank those who responded to this project.

## **RESPONDENTS**

**NAME:** J.M. Anderson

**POSITION:** Associate Professor of Chemistry

**INSTITUTION:** Bryn Mawr College  
Bryn Mawr, PA 19010  
Phone: (215) LA5-1000 Ext.351

**PRIMARY DISCIPLINE:** Chemistry and Physics  
Mathematics and Computer Science  
Ecological Science

**ACTIVITY:** Theory and Model Development  
Data Collection and Analysis  
Instruction  
Research Methodology  
Publication  
Instructional Materials

**PRIMARY POPULATION:** Undergraduate  
Graduate and Professional

**SUMMARY:** Professor Anderson studies mathematical models for dynamic systems, and he aims his work in understanding the characteristics of stable environments at the educated public in general, in addition to smaller technical audiences and his students. One of the models he has developed is a simulation for Garrett Hardin's "Tragedy of the Commons."

**NAME:** Edward F. Babbott

**POSITION:** Research Associate

**INSTITUTION:** Management Institute for National Development  
230 Park Avenue  
New York, N.Y. 10017  
Phone: (212) 889 5847

**PRIMARY DISCIPLINE:** Education: Primary and Secondary  
Education: Post secondary

**ACTIVITY:** Proposal Writing/Grantsmanship  
Publication  
Instructional Materials  
Consulting

**PRIMARY POPULATION:** Primary or Secondary School  
Undergraduate

**FUNDING:** Small private family foundation with some funds for  
specific projects from our sources

**SUMMARY:** Concentrating on grades 11-14, the Institute  
develops position papers, trial curricula, case studies  
and consults with educators and administrators in order  
to increase in U.S. schools instruction concerning  
global development.



**NAME:** Arthur Barber

**POSITION:** President

**INSTITUTION:** First Communications Co.  
6917 Arlington Road  
Bethesda, MD. 20014

**PRIMARY DISCIPLINE:** All Disciplines

**ACTIVITY:** Instructional Materials      Governance  
Mass Media      Recreation  
Lobbying      Arts  
Alternative Life Style      New Human Organizations  
For Use Of Media

**PRIMARY POPULATION:** General Public

**FUNDING:** Private Local Corporations

**SUMMARY:** The First Communications Company plans and implements locally owned cable television systems, including television and radio libraries. The company is striving successfully to increase public awareness of the educational possibilities of electronic media and of the public's own ability to select programming of its choice.

**NAME:** Gerald O. Barney  
**POSITION:** Program Associate  
Head of the Environmental Program

**INSTITUTION:** Rockefeller Brothers Fund  
30 Rockefeller Plaza  
New York, N.Y. 10583  
Phone: (212) 247-8135

**ACTIVITY:** Grant Evaluation

**PRIMARY POPULATION:** Graduate and Professional  
Citizen Groups

**FUNDING:** Rockefeller Brothers Fund

**SUMMARY:** "The Rockefeller Brothers Fund makes grants to local, national and international philanthropic organizations." The Fund concentrates its grants "in several fields which it is believed provide effective points of entry looking toward solution of overall societal problems. These include: population growth and distribution; conservation and constructive use of natural resources; equal opportunity; quality of life, including religion, values and the arts; and education."

**NAME:** Edward Batschelet

**POSITION:** Head

**INSTITUTION:** Biomathematics Division  
University of Zurich  
Gemeindestrasse 5  
CH-8032 Zurich  
Switzerland  
Phone: 01-32 35 11

**PRIMARY DISCIPLINE:** Biology  
Mathematics and Computer Science

**ACTIVITY:** Publication  
Instruction

**PRIMARY POPULATION:** Undergraduate

**FUNDING:** University of Zurich

**SUMMARY:** From a systems analysis perspective, Dr. Batschelet informs his students and the reading public of the global danger of population growth. In conjunction, Dr. Batschelet is developing alternative models of stable populations.

**NAME:** Justin Blackwelder

**POSITION:** President

**INSTITUTION:** The Environmental Fund  
1302 18th Street, N.W. #403  
Washington, D.C. 20036

**PRIMARY DISCIPLINE:** Ecological Science  
Economics  
Education: Postsecondary  
Population Growth

**ACTIVITY:** Data Collection and Analysis  
Research Administration  
Publication  
Instructional Materials  
Consulting

**PRIMARY POPULATION:** Graduate and Professional  
Technical/Specialist Public

**FUNDING:** The organization is funded by the directors

**SUMMARY:** "The Environmental Fund was created to focus public attention on the fact that exponential population growth is basic to most of our social problems. It is one of the causes of inflation, unemployment, food and energy shortages, resource scarcities, pollution and social disorder. The Fund's Directors believe that many of the problems facing the world today can only get worse, and that the quality of life of the world's peoples can only deteriorate, if population growth continues.

"The first priority of the Fund, therefore, is to create awareness, first in the United States and then elsewhere, of the fact that population must first be stabilized, and then, ideally, be allowed to return to a level where it would be possible for all people to live in reasonable comfort and dignity."

Justin Blackwelder writes, "For two years we have been searching for the top people in the many fields relative to the implications of growth--population, resource depletion, pollution, and economics. As we find these people we bring them to Washington, in groups never exceeding ten, for discussions which last approximately two days. The discussions are entirely unstructured; each participant talks about whatever he or she considers to be important."

The Fund pays the expenses of these people to go to Washington and advise officials in government, and it circulates without charge materials it considers important. Among these have been the books Famine 1975, by William and Paul Paddock; The Titanic Effect, by Kenneth Watt; and Population, Evolution, and Birth Control, by Garrett Hardin.

The Fund also publishes a news sheet titled "The Other Side," which it will mail on request without charge.

"This publication is issued in the spirit in which the Environmental Fund was established. We call it "The Other Side" to distinguish it clearly from the prevalent, popular, or conventional, views in many areas. We believe that helpful opposition to the conventional wisdom will require that all of the facts be squarely faced no matter how unsettling they may be. It is also an effort to stimulate thinking about the unthinkable.

It is intended for those who, like skeptics of old, doubt, question and even disagree. We propose here to provide them with a forum in which the most urgent of their findings may be aired, together with their most compelling insights and recommendations."

**NAME:** Asa Briggs

**POSITION:** Chairman

**INSTITUTION:** University of Sussex  
Science Policy Research Unit  
Martell Building  
Brighton, BN1 9RG  
U.K.  
Phone: Brighton 686758

**PRIMARY DISCIPLINE:** Ecology/Environmental Science  
Economics  
Engineering and Technology  
Mathematics and Computer Science  
Political Science and Government  
Psychology and Psychiatry  
Sociology and Anthropology

**ACTIVITY:** Theory or Model Development  
Research Methodology  
Data Collection and Analysis  
Publication  
Instruction  
Consulting

**PRIMARY POPULATION:** Undergraduate  
Graduate and Professional  
General Public  
Technical/Specialist Public

**FUNDING:** U.K. Research Councils; U.K. Government Agencies;  
U.K. Industry; International Organizations; Foundations.

**SUMMARY:** "Much of the rationale of science policy is that of the efficient use of national scientific and technological resources for long-term public goals such as economic growth and public welfare. In order to obtain relevant criteria for the ordering of priorities within this policy, it is necessary to try to foresee the ways in which the world may be influenced by technological advances, as well as future social requirements for new technologies. The Science Policy Research Unit (SPRU) is engaged in research with this aim in view.

**"By means of its research reports and publications, the SPRU hopes to stimulate a wider (and better informed) public debate about these issues, both among policy-makers in industry and government and among the general public. It also hopes to stimulate an awareness of these problems and issues among students at both the undergraduate and graduate level." The SPRU participates in the University of Sussex through the History and Social Studies of Science Group, contributing its research results and instruction.**

**NAME:** Paul C. Buchanan

**POSITION:** Faculty Member

**INSTITUTION:** Federal Executive Institute  
Route 29N  
Charlottesville, VA 22903

**PRIMARY DISCIPLINE:** Political Science and Government  
Psychology

**ACTIVITY:** Instruction  
Instructional Materials  
Consulting

**PRIMARY POPULATION:** Technical/Specialist Public

**FUNDING:** Sell "shares" to Federal government agencies/  
departments.

**SUMMARY:** The Federal Executive Institute is an interagency training facility geared to the needs of high-level federal executives. It works to insure "high-level competence, responsiveness, and continuity among those near the top of government; to insure that executives in the Federal service are identified with the Government as a whole in the pursuit of national goals, objectives, and priorities; and to develop individual executive knowledge and skills in (management) processes."

With these objectives, the Institute is occupied in developing, within a residential, adult education setting, sensitivity to changing job needs and flexibility in job performance. The Institute plans to double its current capacity.



**NAME:** Charles M. Cargille

**POSITION:** President

**INSTITUTION:** World Population Society  
P.O. Box 106, Eagle Station  
Washington, D.C. 20016  
Phone: (202) 686-3863

**PRIMARY DISCIPLINE:**

**PRIMARY DISCIPLINE:** Population Science

**ACTIVITY:** Publication  
Sponsoring Scientific Meetings  
Mass Media

**PRIMARY POPULATION:** Graduate and Professional  
General Public

**FUNDING:** Membership Dues  
Registration Fees  
Loans from Members  
Grants  
Sale of Publications

**SUMMARY:** "The World Population Society, chartered in March 1973, represents a new multidisciplinary initiative to solve major world population problem. The Society addresses itself primarily to questions of population dynamics and to relationships between production, economics, national and international political stability and environmental quality."

The Society fosters multidisciplinary research, education and communication concerning world problems and "intends to make every effort to convince the world's key leaders, opinion molders and policy makers" of the importance of a multidisciplinary perspective. Among the specific objectives of the society is the establishment of a clearinghouse/secretariat for the collection, analysis, and dissemination of population research findings.

**NAME:** Craig Carlson

**POSITION:** Faculty Member, Communications Department

**INSTITUTION:** The Evergreen State College  
Olympia, WA 98505

**PRIMARY DISCIPLINE:** Aesthetics/Applied Arts  
Communications and Linguistics

**ACTIVITY:** Theory or Model Development  
Alternative Life Style  
Arts

**PRIMARY POPULATION:** Undergraduate

**SUMMARY:** "I make things using media and try to help other people make things using media." One of Professor Carlson's activities has been a project-oriented, group-directed undergraduate class in communication arts, developing sensitivity to the qualities and methods of various media. The class, with three faculty giving guidance, stressed group cooperation in projects integrated, through presentations and internships, into the community.

To foster both group awareness and individual introspection, a student engages in a variety of related efforts: "A typical work week will consist of meetings, a seminar with a small core group, workshops and laboratory experience, critiques, field trips, and studio projects. Each member of the group will maintain a journal reflecting self-discoveries and understandings."

**NAME:** Bernard Cazes

**POSITION:** Senior Civil Servant in charge of Long-Range Studies

**INSTITUTION:** Commissariat General Du Plan  
18 Rue De Martignac  
75007 Paris, France

**PRIMARY DISCIPLINE:** Economics  
Sociology and Anthropology

**ACTIVITY:** Governance

**PRIMARY POPULATION:** General Public  
Government Officials

**FUNDING:** State Budget

**SUMMARY:** The staff of the planning commissariat produces papers and reports for key policymakers on long- and mid-term policy impact over a wide range, from environmental to cultural and political.

**NAME:** John B. Cobb, Jr.  
**POSITION:** Professor  
**INSTITUTION:** School of Theology  
Claremont, CA 91711  
Phone: (714) 626-3521  
  
**PRIMARY DISCIPLINE:** Philosophy and Religion  
**ACTIVITY:** Publication  
Instruction  
Alternative Life Style  
**PRIMARY POPULATION:** Graduate and Professional

**SUMMARY:** Dr. Cobb is working to clarify the nature of Christian responsibility and to redefine the mission of the church within the context of global scarcities and growth limits.

Coordinate with his teaching, Dr. Cobb has developed an emphasis within the Claremont faculty on the implications of global constraints, and he has helped shape a four-year commitment of the School of Theology, including outreach to affiliated churches, on the problems of global responsibility.

Dr. Cobb has held two conferences in this area: "Theology of Survival," April 1970, and "Alternatives to Catastrophe," May 1972. He has also participated in the Ecology Task Force of the Southern California Council of Churches, which included workshops with local churches.

In addition, Dr. Cobb is vice-chairman of the Arcology Development Center which is promoting the work of Paolo Soleri. The group is now engaged in obtaining foundation funds to produce a film for television.

**NAME:** Richard W. Cortright  
**POSITION:** Staff liaison for population education  
**INSTITUTION:** National Education Association  
1201 16th Street, N.W.  
Washington, D.C. 20036  
Phone: (202) 833-4187

**PRIMARY DISCIPLINE:** Education: Primary and Secondary  
Education: Postsecondary

**ACTIVITY:** Instruction  
Instruction Materials  
Consulting

**PRIMARY POPULATION:** Primary or Secondary School  
Graduate and Professional

**FUNDING:** Population Institute

**SUMMARY:** The National Education Association is involved currently in a project with the Rhode Island Education Association and The University of Rhode Island aimed at elementary and secondary school teachers in the state. Through training workshops, interviews and consultations, the processes and implications of population changes--local, national and global--are presented to the teachers to help them develop curricula in population study and alternative patterns of growth.

In planning now is a program to repeat the Rhode Island effort nationally.

**NAME:** Brian Laird Crissey  
**POSITION:** Research Associate  
**INSTITUTION:** The Johns Hopkins University Metro Center  
34th and Charles Streets  
Shriver Hall  
Baltimore, MD. 21218  
Phone: (301) 366-3300 Ext.898 or 717

**PRIMARY DISCIPLINE:** Ecology/Environmental Science  
Economics  
Mathematics and Computer Science  
Political Science and Government

**ACTIVITY:** Theory or Model Development  
Research Methodology  
Publication

**PRIMARY POPULATION:** Undergraduate  
Graduate and Professional

**FUNDING:** Russell Sage Foundation  
National Science Foundation

**SUMMARY:** Dr. Crissey has been exploring means to better utilize computer models in policy decisions, in particular, energy use policy. New ways to use multiple computer models to offset biases in individual models have been a primary concern.

The project findings are being published as Models in the Policy Process, M. Greenberg, M. Crenson and B. Crissey.

A seventeen-month follow-up study of energy models and their use is also underway.

**NAME:** Andrzej Dabkowski

**POSITION:** Senior Expert, Advisor and one of Main Designers of Integrated Information System for Central Planning

**INSTITUTION:** Planning Commission of Ministry Council  
00-507 Warszawa  
Plac 3 Kezyzy 3/5  
Poland  
Phone: 282240

**PRIMARY DISCIPLINE:** Business and Management  
Economics  
Engineering and Technology  
Mathematics and Computer Science  
Political Science and Government

**ACTIVITY:** Theory or Model Development  
Data Collection and Analysis  
Research Administration  
Publication  
Consulting

**PRIMARY POPULATION:** Adult Continuing Education  
Graduate and Professional  
Technical/Specialist Public

**SUMMARY:** Andrzej Dabkowski has for a decade been working in the area of information theory, mathematical econometrics modelling, and applications of computer science in central planning. With scientists from the government Institute of Planning, he is currently constructing a computerized, 5-year national planning system for government needs.

**NAME:** James Allen Dator

**POSITION:** Director (Mr. Richard Barber, Acting Director during the absence of Dr. Dator - October 1974 - October 1976)

**INSTITUTION:** Hawaii State Research Center for Futures Study  
711 Porteus Hall  
University of Hawaii  
2424 Maile Way  
Honolulu, HI 96822  
Phone: (808) 948-7360

**PRIMARY DISCIPLINE:** Political Science and Government

**ACTIVITY:**

Theory or Model Development	Instruction
Research Methodology	Instructional Materials
Data Collection and Analysis	Mass Media
Research Administration	Lobbying
Proposal Writing/Grantsmanship	Consulting
Publication	Alternative Life Style

**PRIMARY POPULATION:** Undergraduate  
Adult Continuing Education  
Graduate and Professional  
General Public

**FUNDING:** At present, State of Hawaii; business and labor groups contracting for specific services (e.g. construction industry computer-based model)

**SUMMARY:**

The Research Center develops and adapts futures research methods for Hawaii; generates scenarios of alternative futures for Hawaii and works to foster popular participation in futures research. This work is aimed at Hawaiian legislative, judicial and administrative government personnel; special interest groups; and the citizens of the state.

The approach is "simply to 'do everything at once' rather than to choose a small number of things and concentrate on them." Activities include development of computer models; television shows over public and commercial channels; multi-media presentations; public talks, speeches and fairs; and formal academic instruction.



**NAME:** James Allen Dator

**POSITION:** Director of the Futures Project

**INSTITUTION:** Ontario Educational Communications Authority  
2180 Yonge Street  
Toronto, Ontario  
Canada  
Phone: 484-2794

**PRIMARY DISCIPLINE:** Aesthetics/Applied Arts  
Political Science and Government

**ACTIVITY:** Instructional Materials  
Mass Media

**PRIMARY POPULATION:** Adult Continuing Education  
General Public

**FUNDING:** Government of Ontario and educational foundations

**SUMMARY:** The Futures Project, to extend over two years, is engaged in the "development of a television series, along with appropriate teaching aids and supplementary materials, dealing with the concept of "alternative futures" and ways of generating both more alternatives and programs for the realization of desirable futures and the avoidance of undesirable ones (as defined by the viewer/student)."

To help assure the pertinence of the series to local situations, "futurists" and educators are being solicited for their ideas and involvement, and students enrolled in institutions willing to give credit for work on the series are being asked to participate. It is hoped that those involved in its production also will be instrumental in introducing the series into their local situation.

**NAME:** William I. Davisson  
**POSITION:** Professor of Economics  
**INSTITUTION:** University of Notre Dame  
Notre Dame, Indiana 46556  
Phone: (215) 283-7458

**PRIMARY DISCIPLINE:** Economics

**ACTIVITY:** Theory or Model Development  
Research Methodology  
Data Collection and Analysis  
Instruction

**PRIMARY POPULATION:** Undergraduate

**SUMMARY:** Dr. Davisson, with Dr. John Uhran of the Electrical Engineering department, developed an undergraduate, upper-level interdisciplinary course on Simulation of Socio-Economic Systems. The course was first offered spring term, 1973-74, and involved a pilot group of seniors from the economics and engineering departments.

The primary texts for the course were D.H. Meadows, et al., Limits to Growth and The Dynamics of Growth in a Finite World, and Dynamo II, Users Manual (A.Pugh). After a four-week introduction to basic concepts and methods, small interdisciplinary teams formed to study and model specific problems in socio-economic systems. The goals were (1) to familiarize the student with a dynamic simulation language; (2) to familiarize the student with one example simulation of a real-world problem; (3) to direct the student into simulation and modeling of other socio-economic problems; (4) to indicate strengths and weaknesses of specific models where all aspects of the model, including assumptions, must be quantified; (5) to encourage the investigation

and relevance of policy recommendations of real-world problems and their counterparts in simulation models.

"In conclusion, it might be said that this course provides a vehicle for engineers and non-engineers to talk on a common ground. Indeed in this we were very successful. Finally, it is worth noting that this course does not emphasize engineering, simulation or computers, but brings together common tools to solve complex, real-world problems."

**NAME:** Stuart C. Dodd

**POSITION:** Emeritus Professor of Sociology

**INSTITUTION:** University of Washington  
Seattle, WA 98195  
Phone: (206) 543-5024

**PRIMARY DISCIPLINE:** Sociology and Anthropology  
Cosmology

**ACTIVITY:** Theory or Model Development  
Publication

**PRIMARY POPULATION:** Graduate and Professional

**SUMMARY:** Professor Dodd is developing and testing mathematical models for the cosmos "when defined as the universal set ( $=U^0=1$ ) of all things namable." His work is intended to develop an integrated world view that may ultimately reach the public at large.

In June, 1974, Professor Dodd helped organize a professional association of cosmology- or meta-modellers. Dr. Dodd gives two or three papers at conferences annually, and he is planning a monograph on his work in cosmos modelling. He is now under contract with Gordon and Beach to republish from his research career 150 articles in four volumes.

**NAME:** Duane S. Elgin

**POSITION:** Policy Research Analyst

**INSTITUTION:** Stanford Research Institute  
333 Ravenswood Avenue  
Building 203-B  
Menlo Park, CA 94025  
Phone: (415) 326-6200 Ext.4702

**PRIMARY DISCIPLINE:** Communications and Linguistics  
Ecological Science  
Economics  
Philosophy and Religion  
Political Science and Government  
Psychology and Psychiatry  
Sociology and Anthropology

**ACTIVITY:** Theory or Model Development      Proposal Writing/  
Research Methodology      Grantsmanship  
Data Collection and Analysis      Alternative Life Style  
Research Administration      Publication

**PRIMARY POPULATION:** General Public  
Technical/Specialist Public

**FUNDING:** Numerous contracts with government and foundations

**SUMMARY:** Dr. Elgin has listed three primary goals for his Institute activities. These are to develop (1) a humanistic social transformation, (2) an ecological ethic, and (3) a self-realization ethic.

Policy research is contracted with professional leadership in government, business and foundations. Reports and articles are also distributed to active researchers with similar concerns.

Reports in the area of education include "Alternative Futures and Educational Policy," a 40-page memorandum prepared for the U.S. Office of Education in 1970; and "The Potential Impact of a

**National Population Distribution Policy upon Education," by Dr. Elgin, October 1972.**

**Dr. Elgin has also written a critique of industrial society titled, "Economic Man: Servant to Industrial Metaphors."**

**NAME:** Robin Elliott  
**POSITION:** Director, Information and Education  
**INSTITUTION:** Planned Parenthood Federation of America  
810 Seventh Avenue (6th Floor)  
New York City, N.Y. 10019  
Phone: (212) 541-7800

**PRIMARY DISCIPLINE:** Health/Medical Sciences

**ACTIVITY:** Data Collection and Analysis  
Publication  
Mass Media  
Public Education  
Medical Family Planning Service

**PRIMARY POPULATION:** General Public  
Key health, educational, government  
institutions, public and private

**FUNDING:** Private contributions; foundation grants;  
government grants and contracts

**SUMMARY:** The Federation works "to bring about a situation in which all individuals and couples have the ability and means to regulate their own fertility according to personal choice."

The Federation focuses primarily on low-income persons and youth, as those in greatest need, and the institutions and agencies "which are in a position to advance the interests" of the young and the poor.

The Federation produces books and articles, bibliographies, handouts, and audi-visual materials. It conducts research, analysis and evaluation of specific needs and services, and it models medical and educational services at the local level. Its main activities include:

- managing programs in schools, community agencies, and mass media in 250 communities in the U.S.;

- serving more than 800,000 individuals with family planning education and medical service;
- providing information service to and from key community agencies, including all levels of government;
- analyzing and publishing studies of needs for family planning and abortion services.



**NAME:** Mary English

**POSITION:** Planner

**INSTITUTION:** Massachusetts Department of Natural Resources  
100 Cambridge Street, Floor 19  
Boston, MA 02202  
Phone: (617) 727-3163

**PRIMARY DISCIPLINE:** Ecology/Environmental Science  
Recreation

**ACTIVITY:** Governance  
Recreation

**PRIMARY POPULATION:** General Public

**FUNDING:** Mass. General Fund (from state taxes)  
Special, use-specific funds (from certain excise taxes  
and licensing fees)

**SUMMARY:** The Department of Natural Resources seeks, through environmental regulation and management, and through acquisitions of parks, forests, and other selected valuable resource and recreational sites, to protect the natural resources of the Commonwealth of Massachusetts and to improve the recreational opportunities available to its people.

**NAME:** John C. Esty, Jr.

**POSITION:** Program Associate for Boston Area and Education

**INSTITUTION:** Rockefeller Brothers Fund  
24 Walden Street  
Concord, MA 01742

**PRIMARY DISCIPLINE:** Ecological Science  
Education: Primary and Secondary

**ACTIVITY:** Proposal Writing/Grantsmanship  
Instructional Materials  
Consulting

**PRIMARY POPULATION:** Primary or Secondary School  
Graduate and Professional

**FUNDING:** Rockefeller Brothers Fund  
Rockefeller Family Fund

**SUMMARY:** Dr. Esty makes grant decisions. He advises in program development and is concerned that education administrators, institutions and students be alerted to the problems of the environment.

**NAME:** Jacqueline M. Falk  
**POSITION:** Acting Chairman and Assistant Professor  
**INSTITUTION:** University of Wisconsin - Green Bay  
College of Human Biology  
Growth and Development Concentration  
Green Bay, WI54302  
Phone: (414)465-2366

**PRIMARY DISCIPLINE:** Education: Postsecondary  
Health/Medical Sciences  
Sociology and Anthropology  
Gerontology

**ACTIVITY:** Publication  
Instruction

**PRIMARY POPULATION:** Undergraduate

**FUNDING:** State of Wisconsin

**SUMMARY:** Professor Falk's classes and published articles are designed to increase understanding of the problems of the aged in the U.S. The courses are interdisciplinary and serve undergraduate prospective nurses, school teachers and social workers.

Professor Falk plans a course dealing with support systems for the elderly, looking in particular at northeastern Wisconsin where large numbers of rural elderly live in isolated areas.

**NAMES:** F. Robert Gartner  
**POSITION:** Associate Professor of Range Ecology  
**INSTITUTION:** South Dakota State University  
Agricultural Research and Extension Center  
801 San Francisco Street  
Rapid City, SD 57701  
Phone: (605) 394-2237

**PRIMARY DISCIPLINE:** Agriculture  
Ecology/Environmental Science

**ACTIVITY:** Data Collection and Analysis  
Research Administration  
Proposal Writing/Grantsmanship  
Publication  
Instruction

**PRIMARY POPULATION:** Undergraduate  
Adult Continuing Education  
General Public  
Technical/Specialist Public

**FUNDING:** Federal, State and Agency Grants

**SUMMARY:** Professor Gartner is developing methods to be used by game and land managers and livestock producers to improve rangeland productivity. Much of his effort also is concerned with introducing managers and producers to existing methods through talks, demonstrations and public meetings. Dr. Gartner hopes to increase youth involvement in range management by means of programs in the public schools and via extracurricular events such as fairs and contests.

Further funding through grant agencies and the means for adding graduate research assistants to the project are being explored.

**NAME:** Richard I. Gerson

**POSITION:** Project Officer

**INSTITUTION:** National Science Foundation  
Experimental R&D Incentives Program  
1800 G Street, N.W.  
Washington, D.C. 20550  
Phone: (202) 632-5550

**PRIMARY DISCIPLINE:** Business and Management  
Political Science and Government

**ACTIVITY:**

Research Methodology	Consulting
Data Collection and Analysis	Alternative Life Style
Research Administration	Governance
Proposal Writing/Grantsmanship	Recreation
Publication	Arts
Mass Media	Lobbying

**PRIMARY POPULATION:** Graduate and Professional  
Technical/Specialist Public

**FUNDING:** Federal Program Funds

**SUMMARY:** The Experimental Research and Development Incentives Program fosters innovative policies and tests them for their actual differential effects. University and industrial research and development staff and government officials at all levels concerned with innovation are involved, with special effort to bring industries, cities and universities into cooperation. Federal financial policy incentives in particular are an expected Program area.

**NAME:** Jerry Glenn

**POSITION:** Syncon Coordinator and Director, New Worlds Training and Education Center

**INSTITUTION:** The Committee For The Future, Inc.,  
2325 Porter Street, N.W.  
Washington, D.C. 20008  
Phone (202) 966-8776

**PRIMARY DISCIPLINE:** Comprehensive Future Global Planning

**ACTIVITY:**

Theory or Model Development	Instruction
Data Collection and Analysis	Instructional Materials
Research Administration	Mass Media
Proposal Writing/Grantsmanship	Consulting
Publication	

**PRIMARY POPULATION:** General Public

**FUNDING:** Mix of private donations, corporations and U.S. Government (F.E.A., N.S.F., and A.E.C.)

**SUMMARY:**

The Committee for the Future, Inc., involves as large a cross-section of the public as possible in generating positive images of the future and facilitating their actualization.

Eighteen syncons--"public think-tanks"--have been held and televised, and materials produced by the Committee include books and articles, resource handouts, audio-visual materials, computer programs and simulations, hardware and workshop designs. A global syncon is in ovo.

**NAME:** Roderic Gorney

**POSITION:** Associate Adjunct Professor; Director, Program on Psychosocial Adaptation and the Future

**INSTITUTION:** University of California - Los Angeles  
Department of Psychiatry  
760 Westwood Plaza  
Los Angeles, CA 90024  
Phone: (213) 825-0463

**PRIMARY DISCIPLINE:** Education: Postsecondary  
Health/Medical Sciences  
Political Science and Government

**ACTIVITY:** Data Collection and Analysis  
Publication  
Mass Media  
Arts

**PRIMARY POPULATION:** Graduate and Professional  
General Public  
Technical/Specialist Public

**FUNDING:** Lilly Endowment, Indianapolis, Indiana

**SUMMARY:** The Program on Psychosocial Adaptation and the Future is researching the effects of television entertainment on adult attitudes, values, and behavior, and the effects of different styles of child-raising on adult levels of achievement, aggression, and mental illness.

The study of child-raising involves a comparative study of 60 cultures. The television research is gathering information from 300 volunteer subjects in the Los Angeles area, and the results are expected to be analyzed and published by mid-1975, with "an overall 'effect index' for television programming use" as an eventual goal.

**NAME:** Richard S. Greeley  
**POSITION:** Associate Technical Director  
**INSTITUTION:** The Mitre Corporation  
Westgate Research Park  
McLean, VA 22101  
Phone: (703) 790-6771

**PRIMARY DISCIPLINE:** Biology Ecology/Environmental Science  
Business and Management Engineering and Technology  
Chemistry and Physics Mathematics and Computer Science  
Communications and Linguistics Economics  
Earth Sciences

**ACTIVITY:** Theory or Model Development  
Research Methodology  
Data Collection and Analysis  
Research Administration  
Proposal Writing/Grantsmanship  
Publication

**PRIMARY POPULATION:** Graduate and Professional  
Government Officials

**FUNDING:** Primarily (99%) government agencies

**SUMMARY:** The Mitre Corporation is a consulting firm to government agencies, at present primarily the Federal Energy Administration, the Environmental Protection Agency, the Office of Cost Research, the Bureau of Mines, the National Science Foundation, the National Aeronautics and Space Administration, the Army Corps of Engineers, the Geological Survey, and the Bureau of Land Management.

The Mitre Corporation is primarily involved in systems engineering, but it also takes on the roles of research and development planning; program management, testing and evaluation; cost/benefit analysis; technology assessment; technology transfer; and systems



research. The corporation expects a 5% per year company growth rate for several years in the fields of energy and the environment.

Richard S. Greeley summarizes the corporation's approach as follows: "We propose a systems approach to most problems, based on extensive expertise of our multi-disciplinary staff. Our first product on most tasks is a management plan for the task and a thoroughly researched and analyzed discussion of the central problem to be solved."

**NAME:** Edward J. Green

**POSITION:** President

**INSTITUTION:** Planning Dynamics, Incorporated  
850 Ridge Avenue  
Pittsburgh, PA 15212

**PRIMARY DISCIPLINE:** Business and Management  
Communications and Linguistics  
Education: Postsecondary  
Health/Medical Sciences

**ACTIVITY:** Data Collection and Analysis      Governance  
Instruction      Seminars  
Instructional Materials      Workshops  
Consulting      Conferences

**PRIMARY POPULATION:** Adult Continuing Education      Government Agencies  
General Public      Colleges and Universities  
Hospitals      Community Colleges  
Public Utilities

**FUNDING:** Foundation Grants  
Government contracts  
Client Retainers  
Lecture fees

**SUMMARY:** Working primarily with colleges and universities, health care services, government agencies and public utilities, Planning Dynamics, Inc., helps an organization "modify its mission in light of changing expectations, threats, requirements, opportunities, capabilities, resources . . . and accomplish optimum results regardless of what happens."

Acceptance and support by key people involved or affected in the organizational changes are cultivated in the counseling process, which has several dimensions: (1) Clarification of questions of scope, purpose and mission; (2) Identification and evaluation of the environment and its potentials; (3) Development of an internally consistent model of probable developments; (4) Determination

of a strategy to accomplish the desired rate and type of change; (5) Coordination of strategic, operational and logistic planning.

In addition to the expanding needs of educational, health and governmental organizations, Planning Dynamics is working to respond more effectively to the requirements of international organizations to cope with complex, rapidly changing and unpredictable environments. It has produced course syllabi, programmed learning courses, books, articles and handouts, audio-visual aids, workshop designs, films, and cassettes as facilitating materials.

**NAME:** Elinor Greenberg

**POSITION:** Director, University Without Walls, And Other Special Programs

**INSTITUTION:** University Without Walls/Loretto Heights College  
3001 South Federal Boulevard  
Denver, CO 80236  
Phone: (303) 936-8441 Ext.221

**PRIMARY DISCIPLINE:**

Aesthetics/Applied Arts	History and Geography
Biology	Law
Business and Management	Philosophy and Religion
Communications and Linguistics	Political Science and Government
Ecology/Environmental Science	Psychology and Psychiatry
Economics	Recreation and Physical Education
Education: Primary and Secondary	Sociology and Anthropology
Education: Postsecondary	
Health/Medical Sciences	

**ACTIVITY:**

Theory or Model Development	Mass Media
Research Methodology	Consulting
Data Collection and Analysis	Alternative Life Style
Research Administration	Governance
Proposal Writing/Grantsmanship	Recreation
Publication	Arts
Instruction	
Instructional Materials	

**PRIMARY POPULATION:** Undergraduate  
Adult Continuing Education  
Graduate/Professional  
General Public

**FUNDING:**

Student Tuition	U.S. Public Health Service
Office of Education	Teacher Corps
Ford Foundation	Other
Title I HEA '65	

**SUMMARY:** The University Without Walls/Loretto Heights College serves to provide an alternative, individually designed, undergraduate degree program utilizing a mixture of learning resources. The program is intended to conform to anyone with special needs, including ethnic minorities, corrections, students-at-a-distance, and adults seeking continuing education.

**NAME:** Paul J. Grogan  
**POSITION:** Professor of Engineering  
**INSTITUTION:** The University of Wisconsin  
Room 613, University Extension  
432 North Lake Street  
Madison, WI 53705  
Phone: (608) 262-2101

**PRIMARY DISCIPLINE:** Engineering and Technology  
**ACTIVITY:** Data Collection and Analysis  
Publication  
Instruction  
Consulting

**PRIMARY POPULATION:** Adult Continuing Education  
Graduate and Professional  
Technical/Specialist

**SUMMARY:** Professor Grogan seeks to help professional engineers and community leadership keep pace with new and changing technology and to create awareness of the ways in which the future is not a mere extension of the past.

Professor Grogan works through publication, conferences, workshops, seminars and in-service teacher and "extension agent" training, and as organizational possibilities he advocates, in these activities, the concepts of regional planning, with joint sponsorship, shared syllabi and staffs, and rotation of meeting sites.

**NAME:** Edward T. Hall

**POSITION:** Professor of Anthropology

**INSTITUTION:** Northwestern University  
Evanston, IL 60201 (On leave, 1974-75:  
P.O. Box 5278  
Santa Fe, NM 87501  
Phone: (505) 982-3203)

**PRIMARY DISCIPLINE:** Business and Management  
Anthropology

**ACTIVITY:** Theory or Model Development  
Research Methodology  
Publication  
Consulting

**PRIMARY POPULATION:** Undergraduate  
Graduate and Professional  
General Public

**SUMMARY:** Dr. Hall's publications related to architecture and planning include:

- (1) "High Rise Living: Can the Same Design Serve Both Young and Old?" (with Gerda Wekerle). Ekistics, Vol. 33, No. 196, March 1972.
- (2) "Proxemics and Design." Design & Environment, Vol. 2, No. 4, Winter 1972. Reprinted as "Communication and Design." Man Environment Systems, Vol. 2, No. 2, March 1972.
- (3) "Environmental Communication." Behavior and Environment: The Use of Space by Animals and Men. Edited by Aristide H. Esser. New York: Plenum Press, 1971.

His work is in the application of proxemic research to planning and architecture.

**NAME:** Niles Hansen  
**POSITION:** Professor of Economics  
Director, Center for Economic Development  
**INSTITUTION:** University of Texas  
BEB 400  
Austin, TX 78712

**PRIMARY DISCIPLINE:** Ecology/Environmental Science  
Economics

**ACTIVITY:** Theory or Model Development  
Data Collection and Analysis  
Research Administration  
Proposal Writing/Grantsmanship  
Publication  
Instruction  
Consulting

**PRIMARY POPULATION:** Graduate and Professional  
Technical/Specialist Public

**SUMMARY:** During 1974 Professor Hansen was invited to give papers at Harvard University; the Research Triangle Institute, Raleigh, North Carolina; and to the American Society of Planning Officials, Chicago. He has been consultant to several studies, including: (1) The Social Science Research Council, Western Europe Fellowship Programs, 1973-74; (2) The National Science Foundation, Office of Polar Projects, 1973-74; (3) The Southern Regional Council, 1974; (4) The Rand Corporation, 1974; (5) The Nova Scotia Development Project, Halifax, 1974.

Dr. Hansen has been project director of numerous study grants. Those since 1973 include:

--Income Change, Poverty Reduction and Labor Mobility in Nonmetropolitan Areas, Office of Economic Opportunity, 1973 (Funding level: \$77,481)

--Evaluation of Policy Related Research: Goals and Quality of Economic Development, National Science Foundation, 1973 (Funding level: \$93,600)

--Cooperative Dispersed Urban Area Manpower Planning for Nonmetropolitan Areas, U.S. Department of Labor, 1974 (Funding level: \$81,369)

He is a member of the board of editors of several scholarly journals and a member of the National Growth Study Committee, Academy for Contemporary Problems, and has published widely.

For the nature of Professor Hansen's work as director of the Center for Economic Development, see the next entry.



**NAME:** Niles Hansen

**POSITION:** Director . . . . .

**INSTITUTION:** Center for Economic Development  
University of Texas  
BEB 400  
Austin, TX 78712

**PRIMARY DISCIPLINE:** Ecological Science  
Economics

**ACTIVITY:** Theory or Model Development      Publication  
Data Collection and Analysis      Instruction  
Research Administration      Consulting  
Proposal Writing/Grantsmanship

**PRIMARY POPULATION:** Graduate and Professional  
Technical/Specialist

**FUNDING:** Grants and contracts from sources outside the  
University of Texas. Since 1969 major support  
has come from the Economic Development Administration,  
U.S. Department of Commerce; the Office of Economic  
Opportunity; the U.S. Department of Labor; and the  
National Science Foundation.

**SUMMARY:** "The Center for Economic Development is a research unit within the Department of Economics and the College of Social and Behavioral Sciences, University of Texas. The research is primarily oriented toward policy issues in spatial resource allocation. . . .Principal projects have included research on the role of growth centers in regional economic development; analysis of the role of multicounty planning efforts in the United States; studies of factors behind the reversal of population decline in selected nonmetropolitan regions of the nation; critical assessment of measures for controlling the growth and development of cities; and, in cooperation with the Center for Environmental Studies (London), a comparative study

of public policy and regional development in nine Western nations. The Center has also collaborated with other federal agencies, state agencies, and Presidential commissions."

A few examples of discussion papers given at the Center:

--"Loan Practices of Commercial Banks and Economic Agglomeration," Jack Griggs and William Petty;

--"Mathematical Models for Regional Planning," David Kendrick;

--"Factors Determining the Location of Industrial Activity," Niles Hansen;

--"The Delineation of a National System of Planning Regions on the Basis of Urban Spheres of Influence," David L. Huff.

**NAME:** Walter E. Hecox

**POSITION:** Assistant Professor

**INSTITUTION:** Colorado College  
Economics Department  
Colorado Springs, CO 80903  
Phone: (303) 473-2233, Ext.314

**PRIMARY DISCIPLINE:** Economics

**ACTIVITY:** Undergraduate  
Adult Continuing Education

**PRIMARY POPULATION:** Instruction  
Instructional Materials

**FUNDING:** Colorado College Faculty Research Grant

**SUMMARY:** Dr. Hecox is developing the curriculum and materials for an undergraduate course in "Systems Approaches to Alternative World Futures" to be taught, beginning in January, 1975, at Colorado College. This material he intends to publish as articles and perhaps as a book.

**NAME:** Nicolas D. Hetzer  
**POSITION:** President  
**INSTITUTION:** International Ecosystems University  
Forum International, Inc.  
30C Eshleman Hall  
University of California  
Berkeley, CA 94720  
Phone: (415) 642-1954/5387  
843-8294  
841-5105

**PRIMARY DISCIPLINE:** Ecology/Environmental Science  
Education: Postsecondary  
Sociology and Anthropology

**ACTIVITY:** Research Methodology  
Publication  
Instruction  
Instructional Materials  
Consulting

**PRIMARY POPULATION:** Primary or Secondary School  
Undergraduate  
Graduate and Professional  
General Public

**FUNDING:** Private  
Self-generated  
Foundation, Corporation  
Government

**SUMMARY:** Working with present and potential decision makers at the international and national levels of government, business, labor and education, with teachers and future teachers, and with students at all levels, the organization is pursuing the goal of "spreading of ecosystemic and transdisciplinary approaches to education, research and public service through the establishment of the 'International Ecosystems University' as the basis of a global education/innovation system.

• • •

From 1965 to 1972 concepts, methodology and support for the project were developed in small workshops, seminars, conferences and publications, including a magazine, inside and outside of the U.S., with traditional disciplinary institutions and with potential faculty and students. Beginning in 1973 a three-year implementation program commenced and major programs at the graduate, undergraduate and professional levels were consolidated into the International University proper.

The mission of the University is the design of a 'World Optimization Plan' based on 'functional ecosystems units' and "elaborated by the various units of the International Ecosystems University in collaboration with affiliated units and the 'new professionals' trained in them."

**NAME:** B. Ray Horn . . . . .

**POSITION:** Lecturer in Conservation--Extension

**INSTITUTION:** Environmental Communication and Education  
 School of Natural Resources  
 University of Michigan  
 Ann Arbor, MI 48104  
 Phone: (313) 764-1410

**PRIMARY DISCIPLINE:** Communications and Linguistics  
 Ecological Science  
 Education: Primary and Secondary  
 Education: Postsecondary  
 Political Science and Government

**ACTIVITY:** Theory or Model Development  
 Research Administration  
 Proposal Writing/Grantsmanship  
 Publication  
 Instruction  
 Instructional Materials  
 Mass Media  
 Consulting  
 Alternative Life Style

**PRIMARY POPULATION:** Primary or Secondary School  
 Undergraduate  
 Adult Continuing Education  
 Graduate and Professional  
 Technical/Specialist Public

**FUNDING:** The University of Michigan  
 United States Office of Education  
 Private Sources

**SUMMARY:** Dr. Horn is an authority on state planning for environmental communication and education programs. He was the principal author of Michigan's statewide master plan for all environmental communication, education, and information programs (1973), and he has a book forthcoming on communication strategies for environmental communication and education.

Dr. Horn's work is cross-culturally oriented and focuses on the diffusion of innovations which are pro-environmental in nature. Graduate-level students and practicing professionals are his principle immediate targets.

**NAME:** Sydney Howe  
**POSITION:** Executive Director  
**INSTITUTION:** Center For Growth Alternatives  
1785 Massachusetts Avenue, N.W.  
Washington, D.C. 20036  
Phone: (202) 387-6700

**PRIMARY DISCIPLINE:**

Agriculture	Education: Postsecondary
Biology	Engineering and Technology
Business and Management	Health/Medical Sciences
Communications and Linguistics	Philosophy and Religion
Earth Sciences	Political Science and
Ecology/Environmental Science	Government
Economics	Psychology and Psychiatry
Education: Primary and Secondary	Recreation and Physical
Sociology and Anthropology	Education

**ACTIVITY:** Proposal Writing/Grantsmanship  
Publication  
Mass Media  
Consulting  
Alternative Life Style  
Governance

**PRIMARY POPULATION:** General Public  
Technical/Specialist Public  
Decision-makers

**SUMMARY:** "CGA has been established as a service and information linkage among citizen leaders, researchers and decision-makers in both the public and private sectors. In order to increase the efficiency and visibility of many persons and groups facing growth issues, the Center is beginning to:

--Collect, analyse and disseminate information on personal, social, economic, and governmental practices that influence population and consumption growth. . .

--Convene varied expertise and viewpoints to define and advance positive growth alternatives having sound social, economic and ecological foundations.



--Elevate the national dialogue on growth and expand participation in it, through public affairs and training functions that complement and amplify the work of others."

The Center is giving primary attention to the application of known local and regional growth alternatives. Its first efforts focus on housing, employment, transportation, environmental protection and population concerns; energy alternatives; and food alternatives. A guide to the regulation of subdivision plans, commercial and industrial proposals, utility sitings, and transit and tax issues is in preparation. Its aim is "to bring wide public interest to bear upon ad hoc confrontations and to help community leaders integrate specific issues into comprehensive--and often regional--growth management. Also, a report on living with less energy is being produced as an issue of the quarterly Equilibrium, published by CGA as a journal of growth alternatives.

As funds permit, the Center plans work on gains for the economically disadvantaged; co-sponsorship of citizen conferences; and an information service on innovative adjustments to energy shortage.

**NAME:** M. King Hubbert  
**POSITION:** Research Geomorphologist  
**INSTITUTION:** U.S. Geological Survey  
National Center, Mail Stop 922  
Reston, VA 22092  
Phone: (703) 860-6426

**PRIMARY DISCIPLINE:** Earth Sciences  
Ecology/Environmental Science  
Education: Postsecondary  
Engineering and Technology

**ACTIVITY:** Data Collection and Analysis  
Publication  
Instruction

**PRIMARY POPULATION:** Graduate and Professional  
General Public  
Technical/Specialist Public

**FUNDING:** U.S. Geological Survey

**SUMMARY:** Dr. Hubbert works to acquaint government officials, universities, professions, and the general educated public with the present status and future constraints in the evolution of human society. From analysis of data on energy, material and biological resources, Dr. Hubbert primarily prepares technical papers, books and gives invited papers. Dr. Hubbert has also given testimony before Congressional committees.

**NAME:** Elizabeth Hunter

**POSITION:** Professor of Education, Department of Curriculum and Teaching

**INSTITUTION:** Hunter College  
City University of New York  
Box 803  
695 Park Avenue  
New York, N.Y. 10021

**PRIMARY DISCIPLINE:** Education: Primary and Secondary  
Education: Postsecondary

**ACTIVITY:** Publication  
Instruction  
Instructional Materials  
Consulting

**PRIMARY POPULATION:** Undergraduate  
Graduate and Professional

**SUMMARY:** At Hunter College Professor Hunter teaches future teachers and present teachers of children. In addition she does a variety of consulting and is particularly interested in working with college faculties as they seek to improve instruction.

Her primary goal in classes, workshops and consulting is to help people improve their work with children or adults who are their 'clients'. She concentrates on helping people become "more accepting and acknowledging in the affective domain, to become more sophisticated in their use of affect," and she emphasizes activities and experiences for deepening cognitive learning.

Professor Hunter remarks of her teaching, "In all of my work I try to model what I am teaching: I use activities and experiences constantly, I use small groups a great deal, and I try, successfully, I believe, to model helpful and encouraging behavior."

Professor Hunter is the author of the books, The Cooperating Teacher at Work, published by Teachers College Press; Student Teaching, Cases and Comments, and Improving Teaching: Analysing Verbal Interaction in the Classroom (these two co-authored with Edmund Amidon); and Encounter in the Classroom: New Ways of Teaching, all published by Holt, Rinehart and Winston. Articles include: "Improving the Language Skills of Deprived Teachers" in Elementary Education; "Student Teaching as Preparation for Work in the Inner City Schools" in Educational Comment; "Fostering Creative Expression" in Childhood Education; and "Direct Experience in Teacher Education: Innovation and Experimentation" in The Journal of Teacher Education.

**NAME:** Richard T. Ingram

**POSITION:** Associate Director

**INSTITUTION:** Association of Governing Boards of Universities  
and Colleges  
One Dupont Circle  
Suite 720  
Washington, D.C. 20036  
Phone: (202) 296-8400

**PRIMARY DISCIPLINE:** Education: Postsecondary

**ACTIVITY:** Data Collection and Analysis  
Proposal Writing/Grantsmanship  
Governance

**PRIMARY POPULATION:** General Public  
Trustees

**FUNDING:** Three-fourths of the Association's operating expenses  
are provided by annual membership dues, the remainder  
comes from foundations, corporations and individual  
gifts.

**SUMMARY:** "The Association of Governing Boards of Universities  
and Colleges (AGB) exists to strengthen higher education  
by strengthening its lay leadership. It is the only  
national organization concerned primarily with the problems  
and responsibilities of trusteeship in all sectors of  
higher education, and with the relationships of trustees  
and regents to the president, the faculty and the student  
body.

"Of particular value to the trustee or regent are the  
programs of the Association's National Conference on  
Trusteeship and other conferences, seminars and symposia  
planned to meet regional and special needs."

Recent topics of the AGB programs have included:

- Financing Higher Education
- Resources and Reform
- Tenure and Teacher Effectiveness

- The Trustee and Emergent Social Pressures
- Vitality Without Expansion: A Question of Priorities

AGB publishes a journal, ABG Reports, "featuring commentary, reports of conferences, and other materials of special interest to trustees." Articles which have appeared in the journal include:

- "The Limits of Accountability," by Stephen K. Bailey
- "The Impact of Collective Bargaining on University Governance," by William B. Boyd
- "Colleges and Universities as Agents of Social Change," by Algo D. Henderson

The AGB is especially interested in more effectively reaching governing boards at their institutions through individual consultation and special presentations, and it is working for a greater emphasis on the training of new trustees and board chairmen.

**NAME:** Donald N. Johnson

**POSITION:** Associate Director

**INSTITUTION:** Bureau of Governmental Research and Service  
University of Oregon  
P.O. Box 3177  
Eugene, OR 97403  
Phone: (503) 686-5232

**PRIMARY DISCIPLINE:** Business and Management  
Economics  
Education: Postsecondary  
Engineering and Technology  
Law  
Mathematics and Computer Science  
Political Science and Government  
Governmental Research  
Urban and Regional Planning  
Public Finance  
Public Administration

**ACTIVITY:** Research Methodology  
Data Collection and Analysis  
Research Administration  
Proposal Writing/Grantsmanship  
Publication  
Instruction  
Instructional Materials  
Consulting

**PRIMARY POPULATION:** Graduate and Professional  
Public Officials

**FUNDING:** Currently about three-fifths from the University of Oregon; the rest from a variety of governmental sources (federal-state-local)

**SUMMARY:** The basic goal of the Bureau of Governmental Research and Service is to improve public policy decision-making of state and local government in Oregon. It applies its resources (including course syllabi, books, articles, handouts, computer programs, and workshops) to areas of basic public policy from a multi-disciplinary perspective. Its activities emphasize development of research methodology, data collection and analysis, and instruction, at the university and through institutes, conferences and consultation. In particular, the Bureau has had continuing involvement with urban growth and land use problems and has prepared research and publications and taught courses in these areas.

**NAME:** Bengt Olof Karlsson  
**POSITION:** Head of Long Term Analysis Division  
**INSTITUTION:** Swedish Ministry of Finance, Economic Department  
Postfack 103 10  
Stockholm 2, Sweden  
Phone: 08-763 10 00

**PRIMARY DISCIPLINE:** Business and Management  
Economics

**ACTIVITY:** Theory or Model Development  
Data Collection and Analysis  
Research Administration

**PRIMARY POPULATION:** General Public  
Government Officials

**SUMMARY:** "Medium-term planning in Sweden is determined by certain fundamental principles concerning the management of the economy and by the conditions under which economic policy operates. These are characterized by individual freedom and decentralized decision-making. Central planning tends to be of an indicative nature and as to operate under conditions of uncertainty."

"The main approach to achieve a desired development must be to use rather general policy measures in the fields of fiscal, monetary, trade and industrial policy in order to create or modify external conditions."

For medium-term planning, the analysis included in the surveys "concentrated on general macroeconomic aggregates--consumption, investments, foreign trade, production, employment, etc. The analysis by industrial sectors deals with broad groupings--agriculture, forestry, industry, building and construction, communications, trade, etc."

"An econometric model for the total Swedish economy was used for the calculations of economic development,



1970-1975, in the 1970 Survey. This model was extended and used also in the revision of the Survey covering the period up to 1977.

"The model is not intended to inform of cyclical changes in the economy. The technique of analysis is one of comparative statics, i.e., the solution of the model for one specific year is quite independent of the solution of the preceding year."

"The Planning and preparation for the 1975 Survey is well under way. Basically it will follow suit of earlier exercises but development work is being pursued in two different directions.

"The first direction is a broadening and deepening of the traditional contact spectrum with other planners, research institutions and individual researchers."

"The second direction is an extension of the econometric model work. Apart from improving on the present model, attempts are being made of constructing sub-models for various areas that in different ways will be linked to the main model. This work is as yet only exploratory." The areas being explored include the savings and credit market, regional development and its national consequences, labor supply, and private consumption.

In November of 1973 a Royal Commission on budgetary matters outlined a proposal to thoroughly reform the central government budgetary system. Included was the institution of long-range perspective studies with time horizons sufficiently long, 10-20 years, to allow for radical changes in the activities of economic sectors.

Study and planning in the fields of land use and energy requirements are being expanded, and a special secretariat for futuristic studies has recently been established.

**NAME:** Halvor J. Kolshus

**POSITION:** Associate Professor in Modernization Processes  
and Economics  
Associate Dean of the Colleges

**INSTITUTION:** University of Wisconsin - Green Bay  
Green Bay, WI 54302  
Phone: (414) 465-2171

**PRIMARY DISCIPLINE:** Agriculture  
Business and Management  
Economics  
Education: Postsecondary  
Sociology and Anthropology

**ACTIVITY:** Theory or Model Development      Publication  
Data Collection and Analysis      Instruction  
Research Administration      Instructional Materials  
Proposal Writing/Grantsmanship      Consulting

**PRIMARY POPULATION:** Undergraduate  
Adult Continuing Education  
Graduate and Professional  
General Public

**SUMMARY:** Professor Kolshus wishes "to make understood that growth is not inevitable, to communicate that mankind has a choice in the making of tomorrow, and that we have a responsibility to actively participate and create our environment."

Professor Kolshus develops specific courses on alternative futures to encourage students to think in terms of social engineering rather than passive accomodation.

**NAME:** David Kresge

**POSITION:** Program Director, Man in the Arctic Program

**INSTITUTION:** Institute of Social, Economic Government Research  
University of Alaska  
Fairbanks, AK 99701  
Phone: (907) 479-7437

**PRIMARY DISCIPLINE:** Economics

**ACTIVITY:** Theory or Model Development  
Data Collection and Analysis  
Research Administration  
Proposal Writing/Grantsmanship  
Publication

**PRIMARY POPULATION:** Graduate and Professional  
General Public  
Technical/Specialist Public

**FUNDING:** National Science Foundation, Office of  
Polar Programs

**SUMMARY:** The "Man in the Arctic" program is providing policy-choice analysis for public policymakers--the state administration and legislature, federal land managers, state and federal planning groups in Alaska, and professional consultants--in the areas of Alaskan land, resources, fiscal policy and environment use.

Critical present and near-future decision areas are identified in the development of basic models of Alaskan economy and demography. Divergent possible choices in the various policy areas are selected and the consequences of these policies traced in terms of population change, employment, personal income, environmental impact, and quality of life. In the area of environmental impact and demography, more complete basic data are sought, and for questions of quality of life, the program is concerned that better theories and techniques for research be developed.

**NAME:** Ervin Laszlo  
**POSITION:** Professor  
**INSTITUTION:** SUNY College at Geneseo  
Geneseo, N.Y. 14454  
Phone: (716) 245-5232

**PRIMARY DISCIPLINE:** Education: Postsecondary  
Philosophy and Religion

**ACTIVITY:** Theory or Model Development  
Publication  
Instruction

**PRIMARY POPULATION:** Undergraduate  
Graduate and Professional  
General Public

**SUMMARY:** Among students and the general public, through articles, books and lectures, Professor Laszlo seeks to generate a consciousness keyed to alternative futures and systems studies. He also intends to establish a research institute in systems studies.

Strategy for the Future is a recent book by Dr. Laszlo.

**NAME:** Robert Linden

**POSITION:** Research Aide

**INSTITUTION:** Cornell University  
Program on Science, Technology and Society  
632 Clark Hall  
Ithaca, N.Y. 14853

**PRIMARY DISCIPLINE:**

Agriculture	Engineering and Technology
Biology	Health/Medical Sciences
Business and Management	History and Geography
Chemistry and Physics	Law
Earth Sciences	Mathematics and Computer Science
Ecology/Environmental Science	Philosophy
Economics	Political Science and Government
Education: Postsecondary	Sociology and Anthropology

**ACTIVITY:**

Theory or Model Development	Proposal Writing/Grantsmanship
Research Methodology	Publication
Data Collection and Analysis	Instruction
Research Administration	Instructional Materials

**PRIMARY POPULATION:** Undergraduate  
Graduate and Professional  
Technical/Specialist      Public

**FUNDING:** Private and Corporate Foundations, Governmental  
Funding Agencies and Cornell University

**SUMMARY:** "The Cornell University Program on Science, Technology, and Society (STS) was established in the summer of 1969 to stimulate interdisciplinary teaching and research on the interaction of science and technology with society. Initial funding for the project was provided by the National Science Foundation, with Cornell University contributing a portion of the faculty salaries. In November 1970 the Program was awarded a \$300,000 three-year curriculum-innovation grant by the National Science Foundation; this money has been used to continue the development of courses and to provide speakers and workshops in response to continued student and faculty interest in the area.

"The emphasis throughout is on interdisciplinary approaches to problems, and to this end courses have been sponsored in various departments, colleges, and divisions on campus, including the physical, biological, and social sciences; the humanities; engineering; business and public administration; and law. STS involvement in a course may range from encouragement in the planning stages to co-sponsorship, or to direct responsibility by an STS faculty member under the auspices of a University department."

"The course may be initiated by STS or by a department, but in either case the ultimate goal is the same: the incorporation of successful interdisciplinary courses as regular offerings in established departments. The Program thus functions as a catalyst, and this role will be maintained; there are no long-range plans for turning the Program into a department."

Brochures on the program, its course listings and publications are available.

**NAME:** Martti Lindqvist  
**POSITION:** Senior Research Assistant  
**INSTITUTION:** Research Institute of the Lutheran Church  
Satakunnankata 11 B 21  
SF-33100 Tampere 10  
Finland  
Phone: Tampere 31212

**PRIMARY DISCIPLINE:** Philosophy and Religion  
Sociology and Anthropology

**ACTIVITY:** Publication  
Consulting

**PRIMARY POPULATION:** Graduate and Professional  
General Public

**FUNDING:** Lutheran Church of Finland

**SUMMARY:** Dr. Lindqvist is working with theologians, church decision-makers and ecumenical staff, analyzing the ecumenical debate on economic growth and the image of man. He participated in the World Council of Churches' project on "The Future of Man and Society in a World of Science-Based Technology."

**NAME:** Juan A. Llado

**POSITION:** Executive Director  
Dominican Republic Human Resources Study Project

**INSTITUTION:** Education Development Center, Inc.  
55 Chapel Street  
Newton, MA  
Phone: (617) 969-7100

**PRIMARY DISCIPLINE:** Economics

**ACTIVITY:** Research Methodology

**PRIMARY POPULATION:** General Public

**FUNDING:** Interamerican Development Bank--a loan to the  
Government of the Dominican Republic

**SUMMARY:** Dr. Llado is studying and redefining priorities for educational development in the Dominican Republic. His current project involvement concerns the definition of areas of investment in education. This study will continue into a second phase after policies have been defined and will involve specific project identification.



**NAME:** Earle L. Lomon  
**POSITION:** Education Development Center  
55 Chapel Street  
Newton, MA 02158  
Phone: (617) 969-9620

**PRIMARY DISCIPLINE:** Education: Primary and Secondary

**ACTIVITY:** Theory or Model Development  
Data Collection and Analysis  
Proposal Writing/Grantsmanship  
Instruction  
Instructional Materials  
Consulting

**PRIMARY POPULATION:** Primary or Secondary School  
Adult Continuing Education

**FUNDING:** National Science Foundation

**SUMMARY:** The EDC\* is developing and fostering the widespread implementation of an elementary school program "which gives students an opportunity to work on solving real and practical problems in their school and community and in so doing to learn and practice skills and concepts from many disciplines as they are needed."

Students in grades 1-8 may participate in the program. Teachers and all levels of education administration and teacher preparation are being contacted to develop, test and institute the program, which completed will consist of "32 units based on real problems that exist in most schools and communities and related resource materials for teachers and students. Documentation of successful implementation strategies developed by local resource materials for use by other groups interested in implementing the program."

"Funding is expected to continue until 1978 by which time all 32 units will be developed and many more resource teams trained. A similar program for secondary school

students is being explored by a number of interested parties and a National Advisory Council on Inter-disciplinary Education is being considered by a number of discipline-oriented education professional organizations."

\*Note: This work by the EDC is outside the main thrust of this directory. However, because of the inter-disciplinary nature of the EDC program, we have chosen to include a summary of the material they provided.

**NAME:** Richard C. Lonsdale

**POSITION:** Professor of Educational Administration and  
Higher Education

**INSTITUTE:** New York University  
4 Washington Place, Rm. 277  
New York, N.Y. 10003  
Phone: (212) 598-2916

**PRIMARY DISCIPLINE:** Education: Postsecondary

**ACTIVITY:** Instruction  
Governance

**PRIMARY POPULATION:** Graduate and Professional

**SUMMARY:** During the last two years, Professor Lonsdale has included material on "limits to growth" in classes and in special lectures and discussions with students. "Graduate students in education generally and more particularly in educational administration and higher education" are the main subjects of this exposure to limits to growth thinking and values.

**NAME:** Carlos Alberto Mallmann

**POSITION:** Executive President

**INSTITUTION:** Fundacion Bariloche  
Casilla de Correo 138  
San Carlos de Bariloche  
Prov. de Rio Negro,  
Argentina  
Phone: 8017-8321-8322

**PRIMARY DISCIPLINE:** Physics  
Philosophy  
Psychology

**ACTIVITY:** Theory or Model Development  
Research Administration  
Alternative Life Style

**PRIMARY POPULATION:** Graduate and Professional

**FUNDING:** Fundacion Bariloche

**SUMMARY:** Dr. Mallmann is developing a theory of well-being or quality of life and the means to implement such a theory in society. An interdisciplinary group of twenty senior researchers with corresponding junior researchers and staff are engaged in the study. Partial results are being published for proposals and funding through government agencies.

**NAME:** Shelley M. Mark

**POSITION:** Director

**INSTITUTION:** Department of Planning and Economic Development  
250 South King Street  
Honolulu, Hawaii 96813  
or  
P.O. Box 2359  
Honolulu, Hawaii 96804

**PRIMARY DISCIPLINE:** Agriculture  
Business and Management  
Ecology/Environmental Science  
Economics

**ACTIVITY:** Theory or Model Development  
Data Collection and Analysis  
Research Administration  
Publication  
Governance

**PRIMARY POPULATION:** General Public  
Government Officials

**FUNDING:** State and Federal Monies

**SUMMARY:** The Department of Planning and Economic Development is the chief agency in Hawaii involved in growth policy planning. As part of the General Plan Revision Program, under the overall direction of Dr. Shelley M. Mark, the agency has developed a state policy planning document, State of Hawaii Growth Policies Plan: 1974-1984. Dr. Bruce S. Pasch was technical manager for the document, and Dr. John C. Holmstrom of the Pacific Urban Studies and Planning Program, University of Hawaii, and Dr. Anthony J. Cantanese, Vice President of the American Institute of Planners, provided research assistance.

The growth policies plan "presents an analysis of alternative sets of State policies which can substantially

affect, within the next decade, the rates of expansion of Hawaii's population and economy. The Plan recommends policies for legislative and public consideration which call for moderation of growth rates for the capital Island of Oahu, and slight moderation of growth rates for the Neighbor Islands. These actions consider economic and social factors, with emphasis on population, agriculture, tourism, transportation, and housing. Actions for implementing the recommended policies are also presented."

**NAME:** Joan E. Martin

**POSITION:** Assistant Director for Education

**INSTITUTE:** Thorne Ecological Institute  
2305 Canyon Boulevard  
Boulder, CO 80303  
Phone: (303) 443-7325

**PRIMARY DISCIPLINE:** Ecology/Environmental Science  
Education: Primary and Secondary  
Education: Postsecondary

**ACTIVITY:** Data Collection and Analysis  
Instructional Materials  
Consulting

**PRIMARY POPULATION:** Primary or Secondary School  
Adult Continuing Education  
Graduate and Professional  
General Public  
Decision-Makers

**FUNDING:** Outside Grants, Contractors or, Joint Sponsors,  
Participant Fees

**SUMMARY:** "To advance man's understanding and knowledge of both the science and the spirit of ecology so that he may successfully apply them to the problems and responsibilities of living on this planet," the Thorne Ecological Institute devises educational programs for adults and for children preschool-age through high school, contracts with government and industry for ecological research and organizes special seminars for corporate decision-makers, local problem-solvers, government employees and for the general public.

The Institute concentrates effort on conveying through education the importance of ecological values and principles and to interrelate applied ecology and education. To augment this educational effort, the Institute recently

added two new staff. The Institute strives as well through applied ecological research to make ecology a meaningful input into the decision-making process.



**NAME:** David J. McGown

**POSITION:** Minister in Higher Education

**INSTITUTION:** Agape House at University of Illinois - Chicago Circle  
1046 West Polk  
Chicago, IL 60607  
Phone: (312) 666-2676

**PRIMARY DISCIPLINE:** Sociology and Anthropology  
Theology and Ethics

**ACTIVITY:** Theory or Model Development  
Instruction  
Lobbying  
Governance

**PRIMARY POPULATION:** Undergraduate

**SUMMARY:** Reverend McGown helps people conceptualize alternative futures and to move toward a less consumptive life-style and a more effective caring for others. He works with students at the University of Illinois, Chicago Circle, with church constituencies and with the Illinois State Board of Higher Education, through conferences and seminars, informal correspondence and luncheons, and sometimes through the more public settings of petition drives.

**NAME:** John McHale

**POSITION:** Director

**INSTITUTION:** Center for Integrative Studies  
State University of New York  
Binghamton, N.Y. 13901  
Phone: (607) 798-2871

**PRIMARY DISCIPLINE:** Aesthetics/Applied Arts  
Communications and Linguistics  
Ecology/Environmental Science  
Sociology and Anthropology

**ACTIVITY:** Theory or Model Development      Proposal Writing/Grantsmanship  
Research Methodology      Publication  
Data Collection and Analysis      Consulting  
Research Administration      Arts

**PRIMARY POPULATION:** Graduate and Professional  
General Public  
Technical/Specialist

**FUNDING:** Basic budget from University plus external grants  
from various institutions, public and private

**SUMMARY:** The Center for Integrative Studies in the School of Advanced Technology is concerned with "the long-range social and cultural implications of scientific and technological developments. It seeks:

1. To analyze and project the large-scale future consequences of ongoing social, political, economic, and technological trends;
2. to function as a 'sensing unit' concerned with the effect of such trends on the quality of the human environment; and
3. to formulate guidelines for the study and planning of future developments, with emphasis on social and cultural trends."

"The Center's objective is to assemble and 'integrate' the contributions of many disciplines for the identification and evaluation of the critical interactions of technology and society," and to "bring this transdisciplinary and 'social consequences' emphasis into overall educational planning; to provide a focus for graduate education and research; and to act as an information and communication center." The Center seeks to link itself with organizations with similar objectives on an international level, and it issues a variety of working papers and reports derived from its ongoing studies.

**NAME:** John McLeod

**POSITION:** Self-Employed  
P.O. Box 994  
La Jolla, CA 92037  
Phone: (714) 454-0966

**PRIMARY DISCIPLINE:** Engineering and Technology  
Mathematics and Computer Science  
Simulation of Social Systems

**ACTIVITY:** Theory or Model Development  
Research Methodology  
Publication  
Consulting

**PRIMARY POPULATION:** Technical/Specialist Public

**SUMMARY:** Dr. McLeod's research, writing and publishing concern the development of technology "to improve our understanding of the social 'problematique'" and to improve the means for disseminating this technology, primarily to politicians and other decision-makers.

The World Simulation Organization and the role of managing editor of the newsletter, Simulation in the Service of Society (S<sup>3</sup>), are prominent among Dr. McLeod's activities.

**INSTITUTION:** Metropolitan Council  
300 Metro Square Building  
7th and Robert  
St. Paul, MN 55101  
Phone: (612) 227-9421

**PRIMARY DISCIPLINE:** Ecology/Environmental Science  
Political Science and Government

**ACTIVITY:** Governance

**PRIMARY POPULATION:** General Public

**FUNDING:** Local, State and Federal

**SUMMARY:** The Metropolitan Council researches, formulates policy and implementation, and monitors for evaluation programs for the planning and coordination of development in the Twin Cities metropolitan area. It works with local government officials, legislators and concerned citizen action groups.

**NAME:** J. Kenneth Monts  
**POSITION:** Assistant Professor  
**INSTITUTION:** Rice University, ICSA  
Houston, TX 77001  
Phone: (713) 528-4141

**PRIMARY DISCIPLINE:** Mathematics and Computer Science  
Sociology and Anthropology  
**ACTIVITY:** Theory or Model Development  
**PRIMARY POPULATION:** Undergraduate  
**FUNDING:** Sloan Foundation

**SUMMARY:** Professor Monts educates undergraduate engineering students in the social sciences, with emphasis on computer modelling.

**NAME:** Charles L. Nearing  
**POSITION:** Director, Instructional Media  
**INSTITUTION:** University of California - Davis  
 Davis, CA 95616  
 Phone: (916) 752-3556

**PRIMARY DISCIPLINE:** Agriculture                      Engineering and Technology  
 Biology                                              Health/Medical Sciences  
 Communications and Linguistics      Law  
 Education: Postsecondary

**ACTIVITY:** Instructional Materials

**PRIMARY POPULATION:** Undergraduate  
 Graduate and Professional

**FUNDING:** University of California - Davis Instructional and  
 Research Budget. New Building Equipment Funds.  
 Instructional and Research Departmental Budgets and  
 their Innovations and/or Research Grants

**SUMMARY:** Instructional Media works extensively with the departments of Genetics, Engineering, Small Animal Surgery, Biology, Rhetoric, English, and the University Extension and part-time degree programs, improving university instruction using electronic media. Those faculty and students with existing interests in media use are aided, according to their goals, in developing instructional television or audio-tutorial materials. I.M. also approaches faculty who, through lack of contact, do not recognize the potentials of media in their work. Faculty support is taken as I.M.'s absolute prerequisite.

I.M. maintains a microwave and instructional television network to off-campus locations, and it maintains electronic equipment for rental and loan use. The design of physical facilities to facilitate media use in improving the teaching/learning situation is one of I.M.'s leading concerns.

**NAME:** Leif Pedersen  
**POSITION:** Assistant Professor  
**INSTITUTION:** Institute for Social Science  
Rosenborggade 15<sup>2</sup>  
11 30 Copenhagen K  
Denmark

**PRIMARY DISCIPLINE:** Political Science and Government

**ACTIVITY:** Theory or Model Development  
Research Methodology  
Publication  
Instruction  
Instructional Materials

**PRIMARY POPULATION:** Graduate and Professional

**FUNDING:** The funding is via the budget for the Institute  
for Social Science, University of Copenhagen

**SUMMARY:** Professor Pedersen develops formal simulation methods of social systems which are accessible to students and researchers in political science who have no advanced mathematical knowledge. His models are based on theories from the social sciences using system dynamics techniques.

Professor Pedersen teaches graduate students preparing either to teach or to do research in political science, and he is writing a textbook in systems dynamics for political scientists.



**NAME:** William Phillips

**POSITION:** Director

**INSTITUTION:** Habitat Institute  
10 Juniper Road  
Belmont, MA 02178  
Phone: (617) 489-3850

**PRIMARY DISCIPLINE:** Communications and Linguistics  
Ecological Science  
Education: Primary and Secondary  
Education: Postsecondary  
Recreation and Physical Education

**ACTIVITY:** Theory or Model Development  
Proposal Writing/Grantsmanship  
Instruction  
Consulting  
Alternative Life Style  
Recreation

**PRIMARY POPULATION:** Primary or Secondary School  
Undergraduate  
Adult Continuing Education  
General Public

**FUNDING:** Intern Tuition: 41%  
Project Contracts: 21%  
Donations: 38%

**SUMMARY:**

The Habitat Institute implements changes in behavior and values which lead to improved relationships between people and their environment. Its efforts are at the local level, in towns, suburbs, rural areas and with environmental organizations.

The Institute defines goals, derives objectives and then, with a workforce of about forty people, sets a project in motion, with follow-up evaluation to improve the means to reach the desired objectives.

Part of the Institute's work is training interns to be effective problem-solvers and change-agents in environ-

mental areas, and it concentrates on developing a multi-disciplinary--or non-disciplinary--working style.

The Institute intends to establish similar centers around the U.S. and plans to be financially self-sufficient by 1980.

**NAME:** George A. Pierce

**POSITION:** Executive Director, M.A. Program in Public Policy Studies  
Doctoral Candidate, Higher Education

**INSTITUTION:** Claremont Graduate School  
M.A. Program in Public Policy Studies  
Claremont, CA 91711  
Phone: (714) 626-8511 Ext.3988

**PRIMARY DISCIPLINE:** Education: Postsecondary  
Political Science and Government

**ACTIVITY:** Theory or Model Development      Proposal Writing/Grantsmanship  
Research Methodology      Instructional Materials  
Data Collection and Analysis      Consulting  
Research Administration      Governance

**PRIMARY POPULATION:** Graduate and Professionals  
General Public

**FUNDING:** Institutional and out-of-pocket

**SUMMARY:**      The Program in Public Policy Studies seeks to provide a public policy/political model of the state-wide higher education system to be utilized in a heuristic and manipulative fashion by members of higher education state-wide coordinating bodies, individuals concerned with state-wide governmental relations, and the general public concerned with public policy of higher education. Basic research, Delphi survey, cross-impact matrix analysis, systems analysis, and computer technology are the program's primary approaches.

Presently the study is limited to the California system, but, contingent on funding, the program hopes to expand to a regional/national level.

**NAME:** Ronald J. Pion

**POSITION:** Professor of Obstetrics- and  
Professor of Population Studies

**INSTITUTION:** University of Hawaii  
School of Medicine/School of Public Health  
Kapiolani Hospital  
1319 Punahou Street  
Honolulu, HI 96814  
Phone: (808) 955-6611

**PRIMARY DISCIPLINE:** Biology  
Business  
Communications  
Education: Primary and Secondary  
Education: Postsecondary  
Health/Medical Sciences  
Psychology and Psychiatry

**ACTIVITY:** Theory or Model Development  
Proposal Writing/Grantsmanship  
Publication  
Instruction  
Instructional Materials  
Mass Media  
Consulting  
Production (Sales,  
Manufacturing, etc.)

**PRIMARY POPULATION:** Primary or Secondary School  
Undergraduate  
Adult Continuing Education  
Graduate and Professional  
General Public  
Technical/Specialist Public

**SUMMARY:**

Dr. Pion is developing project "Hospital Start" to take advantage of the fact that 98% of all U.S. births occur in hospital with "mother 'captive' for approximately three days and highly motivated to be a good parent."

The project seeks to universalize, through in-hospital contact and through an audiocassette series for post-hospital learning, what is known in terms of infants' needs. Included in the project is research to "enhance development of self-esteem in children by 'grope and sequence' curriculum development with competency measurements used for

evaluation at 18 months, 3 years and 5 years." A foreseen spin-off is improvement in parental self-worthiness.

At present the project is unfunded. Dr. Pion hopes to interest manufacturers of baby products, in particular the Johnson Foundation, in the project's merits. A second priority project is the use of sanitary napkins/tampons as a vehicle for information dispersal. Two message systems for insertion in the cartons would be: 1. How to increase your chances of producing a healthy baby; and 2. How to not begin pregnancy.

Dr. Pion has also recently completed eleven 30-minute color videotape segments for an Educational Television series on parent education entitled Hand-in-Hand.

**NAME:** O. Rademaker

**POSITION:** Professor and Head of Measurement and Control Group

**INSTITUTION:** Eindhoven University of Technology  
P.O. Box 513  
Eindhoven  
Netherlands  
Phone: Eindhoven 40-472885

**PRIMARY DISCIPLINE:** Business and Management  
Education: Postsecondary  
Engineering and Technology  
Mathematics and Computer Science  
Control and Systems Science

**ACTIVITY:** Theory Development  
Research Methodology  
Research Administration  
Publication  
Instruction  
Consulting

**PRIMARY POPULATION:** Graduate and Professional  
General Public  
Technical/Specialist Public

**FUNDING:** Normal Government Funding of the University  
Some additional funds allocated by Council of Ministers

**SUMMARY:** "The name Global Dynamics was chosen to refer to the project as well as the project group, the word Global indicating the object as well as the character of the study.

"Starting from mathematical models set up by others, the project group, in close consultation with specialists with respect to social science and/or management, aims at making a control and systems science contribution to solving the problems brought up for discussion by the Club of Rome."

The Global Dynamics group was assembled early in 1972 and its activities still follow much the same program, except that in the middle of 1973 it was decided "to shift from studying world models, lecturing and writing, to a broad orientation concerning the application of mathematical models to non-technological systems." The emphasis subsequently has returned to the analysis and control of world models, with the study of broad, non-technological systems maintained as a continuing effort.

The project group periodically publishes in English progress reports elaborating the details of its work and strives to make its work intelligible to decision-makers and the general public.

**NAME:** Susan Redlich  
**POSITION:** Environmental Planner  
**INSTITUTION:** Society for Protection of New Hampshire Forests  
2 South State  
Concord, NH 03301  
Phone: (603) 224-9945

**PRIMARY DISCIPLINE:** Ecology/Environmental Science

**ACTIVITY:** Publication  
Instruction  
Instructional Materials  
Lobbying

**PRIMARY POPULATION:** Adult Continuing Education  
General Public

**FUNDING:** Grants: N.H. Council for the Humanities and  
N.H. Tomorrow

**SUMMARY:** The Society promotes informed decision-making by townspeople on matters regarding land use policies and growth guidance mechanisms. It contacts local civic leaders, asks them to identify land use problems, and then structures an educational program to meet informational needs for their solution.

The Society has published a guidebook on managing local growth and has developed a series of region-wide workshops.



**NAME:** William K. Reilly, President  
Gordon Binder, Assistant to the President

**INSTITUTION:** The Conservation Foundation  
1717 Massachusetts Avenue, N.W. Room 300  
Washington, D.C. 20036  
Phone: (202) 265-8882

**PRIMARY DISCIPLINE:** Ecological Science  
Law  
Political Science and Government

**ACTIVITY:**

Data Collection and Analysis	Instructional Materials
Research Administration	Mass Media
Proposal Writing/Grantsmanship	Instruction
Publication	Consulting

**SUMMARY:** "The Conservation Foundation is a non-profit policy research and information organization specializing in environmental studies, with particular emphasis on land use issues." The Foundation has especial interest in citizen involvement in resource management. International resource and environmental problems also appear among its primary concerns, and the Foundation produces a variety of material and organizational resources, including course syllabi, books and articles, and workshop designs.

**NAME:** Everett M. Rogers

**POSITION:** Professor of Journalism and Population Planning

**INSTITUTION:** Department of Population Planning  
University of Michigan  
Ann Arbor, MI 48104  
Phone: (313) 763-1584

**PRIMARY DISCIPLINE:** Communications and Linguistics  
Sociology and Anthropology

**ACTIVITY:** Theory or Model Development  
Research Methodology  
Instruction

**PRIMARY POPULATION:** Graduate and Professional  
U.S. Aid; State of Michigan

**FUNDING:**

**SUMMARY:** Professor Rogers instructs doctoral students in mass communication and professionals in population planning.

**NAME:** Robert Roper

**POSITION:** Director of Research

**INSTITUTION:** Thomte-Roper, Inc.  
59 Commercial Wharf  
Boston, MA 02110  
Phone: (617) 742-5495

**PRIMARY DISCIPLINE:** Business and Management  
Economics  
Mathematics and Computer Science  
Political Science and Government

**ACTIVITY:** Theory or Model Development  
Data Collection and Analysis  
Research Administration  
Lobbying  
Consulting

**PRIMARY POPULATION:** Technical/Specialist Public  
Financial Community

**FUNDING:** Business Income

**SUMMARY:** In order to influence growth policies, Thomte-Roper, Inc., is creating a strong finance/resource base and channels of access to decision-makers in business and government, in particular, managers of institutional capital, business leaders dealing in primary commodities, elected government officials, and career government officials.

Capital management in world commodity markets is among its "parallel efforts to develop management control over a substantial pool of capital and technical competency in understanding and predicting complex, interrelated systems."

**NAME:** Harold W. Rosenthal

**POSITION:** Program Associate for International Economic Affairs

**INSTITUTION:** Rockefeller Brothers Fund  
30 Rockefeller Plaza  
New York, N.Y. 10020

**PRIMARY DISCIPLINE:** Business and Management  
Economics  
Political Science and Government

**ACTIVITY:** Grant-Making

**PRIMARY POPULATION:** Graduate and Professional  
General Public  
Technical/Specialist Public

**FUNDING:** The Rockefeller Brothers Fund

**SUMMARY:** "The Rockefeller Brothers Fund makes grants to local, national and international philanthropic organizations." The Fund concentrates its grants "in several fields which it is believed provide effective points of entry looking toward solutions of overall societal problems. These include: population growth and distribution; conservation and constructive use of natural resources; equal opportunity; quality of life, including religion, values and the arts; and education."

**NAME:** Howard R. Rowland

**POSITION:** Professor, Mass Communications and Educational Administration; Director of Information Services

**INSTITUTION:** St. Cloud State College  
St. Cloud, MN 56301  
Phone: (612) 255-3151

**PRIMARY DISCIPLINE:** Communications and Linguistics  
Education: Postsecondary

**ACTIVITY:** Data Collection and Analysis  
Publication  
Instruction  
Mass Media  
Consulting

**PRIMARY POPULATION:** Undergraduate  
Adult Continuing Education  
Graduate/Professional  
General Public

**FUNDING:** Operating Budget for the Office of Information Services (State of Minnesota/State College System/St. Cloud State College)

**SUMMARY:** By disseminating relevant information in classes and through publications, news releases, photographs, speeches and public meetings, students and leaders in business, industry and government are exposed to conditions and techniques which encourage and assist orderly planning to improve the quality of life and to avoid economic and ecological disasters. College resources, the people, materials and equipment, are stressed as valuable means to conduct research and coordinate planning in the solution of problems by governmental and other policy-making organizations.

**NAME:** W.E. Schiesser  
**POSITION:** Professor of Engineering and Faculty  
Associate in the Computing Center

**INSTITUTION:** Lehigh University  
Computer Center  
Bethlehem, PA 18015

**PRIMARY DISCIPLINE:** Mathematics and Computer Science

**ACTIVITY:** Theory or Model Development

**PRIMARY POPULATION:** Undergraduate

**FUNDING:** NSF Science Faculty Fellowship

**SUMMARY:** With his guidance, Professor Schiesser's students use and develop computer simulation programs for socio-economic systems. Dr. Schiesser has developed Fortran IV programs and plotting routines for Jay Forrester's World 2 model, the Behrens natural resource utilization model, the Boyd modification of the World 2 model, and for the Battelle Globe 6 model. For each of these programs, a source deck, listing and sample output are available for \$30.00. These programs are being used on more than 350 college and university campuses.

Recently a Fortran IV introductory world food model was completed and a world energy model is near completion.

**NAME:** A.J.G. Shaw  
**POSITION:** Co-ordinator - "Future" Studies  
**INSTITUTION:** Ashridge Management College  
Berkhamsted, Hertfordshire  
England HP 4 1NS  
Phone: Little Gaddesden 3491

**PRIMARY DISCIPLINE:** Business and Management  
Ecology/Environmental Science  
Mathematics and Computer Science

**ACTIVITY:** Theory or Model Development  
Instruction  
Consulting  
Alternative Life Style

**PRIMARY POPULATION:** Adult Continuing Education  
Graduate and Professional

**SUMMARY:** Dr. Shaw works with the senior management of organizations to develop a recognition of the value of future planning for present decision-making. And he endeavors to bridge the gaps between planners and doers.

**NAME:** Walter Sikes

**POSITION:** Self Employed Consultant  
111 W.N. College Street  
Yellow Springs, OH 45387  
Phone: (513) 767-1388

**PRIMARY DISCIPLINE:** Business and Management  
Education: Postsecondary  
Psychology and Psychiatry

**ACTIVITY:** Theory or Model Development  
Data Collection and Analysis  
Research Administration  
Publication  
Consulting

**PRIMARY POPULATION:** Undergraduate  
Graduate and Professional  
General Public



**NAME:** J. David Singer  
**POSITION:** Professor of Political Science  
**INSTITUTION:** Mental Health Research Institute  
 University of Michigan  
 Ann Arbor, MI 48104  
 Phone: (313) 764-9548

**PRIMARY DISCIPLINE:** History and Geography  
 Military Science  
 Political Science and Government

**ACTIVITY:** Theory or Model Development      Publication  
 Research Methodology      Instruction  
 Data Collection and Analysis      Consulting  
 Proposal Writing/Grantsmanship

**PRIMARY POPULATION:** Undergraduate  
 Graduate and Professional

**FUNDING:** National Student Foundation

**SUMMARY:** Professor Singer has done extensive work on the  
 nature of war in international relations.

**NAME:** Larry J. Smith  
**POSITION:** Assistant Professor and Chairman Economics Option  
**INSTITUTION:** College of Communications Science  
 University of Wisconsin - Green Bay  
 Green Bay, WI 54302  
 Phone: (414) 465-2335  
 (414) 465-0952

**PRIMARY DISCIPLINE:** Agriculture  
 Ecology/Environmental Science  
 Economics  
 Sociology and Anthropology

**ACTIVITY:**

Theory or Model Development	Publication
Research Methodology	Instruction
Data Collection and Analysis	Instructional Materials
Research Administration	Consulting
Proposal Writing/Grantsmanship	Alternative Life Style

**PRIMARY POPULATION:** Undergraduate  
 Adult Continuing Education  
 Graduate and Professional  
 General Public

**NAME:** Dave Steffenson

**POSITION:** Campus Minister and Lecturer in Modernization Processes

**INSTITUTION:** Ecumenical Center  
University of Wisconsin - Green Bay  
Green Bay, WI 54302  
Phone: (414) 465-0250

**PRIMARY DISCIPLINE:** Education: Postsecondary  
Philosophy and Religion  
Sociology and Anthropology

**ACTIVITY:** Proposal Writing/Grantsmanship  
Publication  
Instruction  
Instructional Materials

**PRIMARY POPULATION:** Undergraduate  
Adult Continuing Education  
General Public  
Technical/Specialist Public

**FUNDING:** Church Funds; Varied Private and Governmental Organizations

**SUMMARY:** Developing curricula, organizing conferences, speaking and publishing, and organizing task forces for institutional change. Dr. Steffenson fosters ethical and religious considerations in environmental education. He works primarily within the university at Green Bay, but also with adult education classes, churches, and special groups, such as the Conservation Education Association. He is now organizing a local task force for long-range planning.

**NAME:** Peter G. Stillman  
**POSITION:** Assistant Professor of Political Science  
**INSTITUTION:** Vassar College  
Poughkeepsie, N.Y. 12601  
Phone: (914) 452-7000

**PRIMARY DISCIPLINE:** Philosophy  
Political Science and Government

**ACTIVITY:** Theory or Model Development  
Publication  
Instruction  
Alternative Life Style

**PRIMARY POPULATION:** Undergraduate

**SUMMARY:** Professor Stillman's research concerns the nature of an ecologically sound and humane society and the means to its development.

**NAME:** Robert E. Sweeney  
**POSITION:** Editor, Technical Writer  
**INSTITUTION:** System Dynamics Group - MIT  
E40-253  
Cambridge, MA 02138  
Phone: (617) 354-4598

**PRIMARY DISCIPLINE:** Business and Management

**ACTIVITY:** Theory or Model Development  
Proposal Writing/Grantsmanship  
Publication  
Instructional Materials

**PRIMARY POPULATION:** Graduate and Professional  
General Public

**FUNDING:** Rockefeller Brothers Fund

**SUMMARY:** "The main focus of our research is the development of a national socio-economics model of the system dynamics variety. The model should lead to improved policies for contending with such chronic issues as inflation and the one-time transition from growth into equilibrium."

The model has been developed over the last two years and should be operating by January, 1975. The conclusions from preliminary models are being presented "to inform and win the support of influential and respected citizens from a great variety of professions," especially national and regional corporate and governmental decision-makers. Several technical and general publications concerning the project are planned.

**NAME:** Carsten Tank-Nielsen

**POSITION:** Research Scientist

**INSTITUTION:** Transportøkonomisk Institutt  
Stasjonsveien 4, Oslo 3  
Norway

(Until August 1975:  
System Dynamics Group  
Thayer School of Engineering  
Dartmouth College  
Hanover, NH 03755)

**PRIMARY DISCIPLINE:** Engineering and Technology

**ACTIVITY:** Theory or Model Development  
Research Methodology  
Data Collection and Analysis

**PRIMARY POPULATION:** General Public  
Technical/Specialist Public

**FUNDING:** Royal Norwegian Council for Scientific and  
Industrial Research

**SUMMARY:** A general dynamic model which can be used by government decision-makers to evaluate policy recommendations in the transportation sector is a major project goal. At present the consistency of specific policies with the overall goals for Norway's development are tested using techniques from system dynamics. In particular the role of transportation in the concentration of people and production is analyzed.

**NAME:** A. Dan Tarlock  
**POSITION:** Professor  
**INSTITUTION:** Indiana University School of Law  
Bloomington, IN 47401  
Phone: (812) 337-6455  
(1974-1975:  
University of Pennsylvania School of Law  
3400 Chestnut Street  
Philadelphia, PA 19174  
Phone: (215) 594-6867

**PRIMARY DISCIPLINE:** Law  
**ACTIVITY:** Publication  
Instruction  
**PRIMARY POPULATION:** Graduate and Professional

**SUMMARY:** Professor Tarlock teaches students how to conceptualize issues of the distribution of growth over geographical areas.

**NAME:** Jan Tinbergen  
**POSITION:** Professor Emeritus  
**INSTITUTION:** Erasmus University  
Haviklaan 31  
The Hague 2023  
Rotterdam 3016  
Phone: The Hague 070-394884

**PRIMARY DISCIPLINE:** Economics  
Education: Postsecondary

**ACTIVITY:** Publication  
Consulting

**PRIMARY POPULATION:** General Public  
Technical/Specialist Public

**FUNDING:** Own income; University of Rotterdam

**SUMMARY:** Professor Tinbergen is engaged in a follow-up study of the Club of Rome's Limits to Growth report. The research results are used to convince government officials on questions of economic planning and to specify needed institutions and reforms.



**NAME:** William B. Torbert  
**POSITION:** Associate Professor  
**INSTITUTION:** Harvard Graduate School of Education  
Cambridge, MA 02138  
Phone: (617) 495-3571

**PRIMARY DISCIPLINE:** Business and Management  
Education: Postsecondary  
Psychology and Psychiatry  
Sociology and Anthropology  
Organizational Behavior

**ACTIVITY:** Theory or Model Development      Instruction  
Research Methodology      Instructional Materials  
Data Collection and Analysis      Consulting  
Publication      Alternative Life Style

**PRIMARY POPULATION:** Graduate and Professional

**SUMMARY:** Professor Torbert is engaged in teaching, meditation, group dynamics, personal counseling and writing to awaken persons "to the scale and excitement of a twenty-year (18-40) period of adult development which is necessary to attain full contact with one's own intuition and to become effective as an agent of constructive social change/stability."

Professor Torbert is formulating theories of 'post-bureaucractic' organizational forms which he names "openly chosen structures," "foundational communities," and "liberating disciplines." He has also developed a proposal for a television series which would be part of an experiment in creating and exploring alternative social futures.

**NAME:** John J. Uhran, Jr.  
**POSITION:** Associate Professor  
**INSTITUTION:** University of Notre Dame  
Department of Electrical Engineering  
Notre Dame, IN 46556  
Phone: (215) 283-7423

**PRIMARY DISCIPLINE:** Economics  
Engineering and Technology  
Mathematics and Computer Science

**ACTIVITY:** Theory or Model Development  
Data Collection and Analysis  
Proposal Writing/Grantsmanship  
Instruction

**PRIMARY POPULATION:** Undergraduate  
Graduate and Professional

**SUMMARY:** Dr. Uhran's research is directed toward an overview of the problems of growth in the global system.

**NAME:** Conrad Hal Waddington

**POSITION:** Professor Animal Genetics  
Director, School of the Man Made Future

**INSTITUTION:** University of Edinburgh  
Edinburgh, Scotland  
U.K.  
Phone: Edinburgh -31-667-1011

**PRIMARY DISCIPLINE:** Education: Postsecondary

**ACTIVITY:** Publication  
Instruction

**PRIMARY POPULATION:** Undergraduate  
Adult Continuing Education  
General Public

**FUNDING:** Small University endowment, attached to Dr. Waddington's  
Chair of Genetics, useable at his discretion; Grant  
from Leverhulme Foundation for two assistants.

**SUMMARY:** Dr. Waddington presently is designing a second-year undergraduate course to be a general survey of all aspects of the 'futures problem', which he hopes will be accepted as counting toward a degree in several different Faculties. Voluntary courses of lectures are being given and two textbooks are being published.

Dr. Waddington has also initiated a conference on "The Future as an Academic Discipline" to be sponsored by the CIBA Foundation, February, 1975.

**NAME:** K.E.F. Watt  
**POSITION:** Professor  
**INSTITUTION:** Department of Zoology  
University of California - Davis  
Davis, CA 95616  
Phone: (916) 752-1558

**PRIMARY DISCIPLINE:** Ecology/Environmental Science  
Economics  
Engineering and Technology  
Mathematics and Computer Science

**ACTIVITY:** Theory or Model Development      Instruction  
Research Methodology      Instructional Materials  
Data Collection and Analysis      Lobbying  
Research Administration      Consulting  
Proposal Writing/Grantsmanship      Alternative Life Style  
Publication      Mass Media

**PRIMARY POPULATION:** Undergraduate  
Adult Continuing Education  
Graduate and Professional  
General Public  
Technical/Specialist Public

**FUNDING:** National Science Foundation (R.A.N.N.) GI-27

**SUMMARY:** Professor Watt is developing computer simulation techniques to select optimal strategies for the attainment of U.S. national goals. To present this work to government, industry and business policy-makers, consultation is augmented by slides, books and articles.

**NAME:** John G. Welles  
**POSITION:** Head, Industrial Economics Division  
**INSTITUTION:** Denver Research Institute  
University of Denver  
P.O. Box 10127  
Denver, CO 80210  
Phone: (303) 753-3502

**PRIMARY DISCIPLINE:** Ecology/Environmental Science  
Economics  
Engineering and Technology

**ACTIVITY:** Research Administration  
Publication

**PRIMARY POPULATION:** Graduate and Professional

**SUMMARY:** Dr. Welles writes, "My activities are (1) to try to figure out who is likely to be most right in the limits debate and why; (2) to relate this position to what I happen to be working on at the moment, whether technology transfer research, innovation studies, economic development programs, energy forecasting, etc., and ask what it means in each context; and (3) then to pass on to others what I think I have learned via: research reports, talks, articles, and conversations."

**NAME:** Kenneth Winetrout  
**POSITION:** Margaret C. Ellis Professor  
**INSTITUTION:** American International College  
Springfield, MA 01109  
Phone: RE 75331

**PRIMARY DISCIPLINE:** Education: Postsecondary  
**ACTIVITY:** Data Collection and Analysis  
Publication  
**PRIMARY POPULATION:** Graduate and Professional

**SUMMARY:** In the areas of growth, design and planning, Dr. Winetrout has contributed articles to scholarly journals and the press, and he has written a study titled Education Looks Ahead--Or Does It?

**NAME:** Erich Zahn

**POSITION:** Assistant Professor

**INSTITUTION:** Industrieseminar der Universität Mannheim  
D-68 Mannheim  
Schloss, Germany  
Phone: 0621-292-5524

**PRIMARY DISCIPLINE:** Business and Management  
Economics  
Mathematics and Computer Science

**ACTIVITY:** Theory or Model Development      Publication  
Research Methodology      Instructional Materials  
Data Collection and Analysis      Consulting  
Proposal Writing/Grantsmanship

**PRIMARY POPULATION:** Graduate and Professional  
Technical/Specialist Public

**FUNDING:** VW Foundation

**SUMMARY:** Dr. Zahn is engaged in problem formulation, data collection, computer simulation, policy formulation and testing, and model validation to create and explore principles for innovative strategic planning. The maximum participation of top management of industry and government is sought in this effort.

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